

DRILL HOLES

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## PROJECT DESCRIPTION

### I. GENERAL

THIS PROJECT INVOLVES A TRAFFIC SIGNAL INSTALLATION AT THE EASTBOUND I-70 ON/OFF RAMP WITH MD 75. MD 75 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

### II. INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA FOUR-PHASE, FULL TRAFFIC ACTUATED MODE. SOUTHBOUND MD 75 WILL OPERATE WITH EXCLUSIVE/PERMISSIVE LEFT TURN PHASING.

### III. CONTROLLER REQUIREMENTS

THE CONTROLLER ASSEMBLY WILL BE AN EIGHT PHASE FULLY ACTUATED NEMA CONTROLLER COMPLETE WITH THE SYSTEM PACKAGE, AND MISCELLANEOUS AUXILIARY EQUIPMENT AS REQUIRED. A NEMA SIZE "6" BASE MOUNTED CABINET IS TO BE USED.

### IV. SPECIAL NOTES

1. MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING THE FOLLOWING STANDARD PLATES FOR TRAFFIC CONTROL: 104.00 - 104.00-30, 104.31-01 (FLAGGING OPERATION), 104.33-01 (SHOULDER WORK), 104.35 (LANE SHIFT), 104.32-01 (INTERSECTION FLAGGING OPERATION).

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PULLING ALL CABLE TO THE CABINET AND SHALL PROPERLY LABEL EACH CABLE.

3. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.

4. CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SHA SIGNAL OPERATIONS SECTION, TO DELIVER MR. ED RODENHIZER FOR PROGRAMMING AT LEAST 72 HOURS IN ADVANCE. CONTACT THE TDD ASSISTANT DIVISION CHIEF, MR. ROBERT SNYDER, TO INSTALLATION OF THE PROPOSED PHONE DROP.

## PHASE CHART

	1	2	3	4	5	6	7	8	
	(R)	(R)	(G)	(R)	(R)	(R)	(Y)	(R)	
	(Y)	(Y)	(G)	(Y)	(Y)	(Y)	(Y)	(Y)	
	(G)	(G)	(G)	(G)	(G)	(G)	(G)	(G)	
PHASE 2 + 5	R	R	+G/G	+G/G	G	R	R	R	1
2 + 5 CHANGE	R	R	+Y/G	+Y/G	G	R	R	R	1
PHASE 2 + 6	G	G	G	G	G	R	R	R	1
2 + 6 CHANGE	Y	Y	Y	Y	Y	R	R	R	1
PHASE 4	R	R	R	R	R	G	G	G	1
4 CHANGE	R	R	R	R	R	Y	Y	Y	1
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	1

## EQUIPMENT LIST "A"

### A. EQUIPMENT TO BE FURNISHED AND INSTALLED BY SHA

None

## EQUIPMENT LIST "B"

### B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

QUANTITY	UNITS	SPECIFICATION SECTION	DESCRIPTION
1	LS	104	Maintenance of Traffic.
1	LS	108	Mobilization.
3	CY	205	Test pit excavation.
10	CY	801	Furnish and install concrete for signal foundation.
5	EA	804	Ground rod - 3/4 in. diameter X 10 ft.
250	LF	804	Stranded bare copper ground wire (#6 AWG)
10	LF	805	2 in. schedule 80 rigid PVC conduit (trenched).
800	LF	805	3 in. schedule 80 rigid PVC conduit (trenched).
200	LF	805	3 in. schedule 80 rigid PVC conduit (bored).
700	LF	805	4 in. schedule 80 rigid PVC conduit (bored).
100	LF	805	4 in. schedule 80 rigid PVC conduit (trenched).
2	EA	807	Electrical service equipment.
85	LF	549	Furnish and install 24 in. white heat applied thermoplastic pavement marking tape.
360	LF	810	2 conductor electrical cable (No. 14 AWG).
90	LF	810	5 conductor electrical cable (No. 14 AWG).
775	LF	810	7 conductor electrical cable (No. 14 AWG).
4	EA	810	Noninvasive microloop probe set 500' lead-in.
11	EA	811	Electrical handhole.
1	EA	816	Video detection interface equipment. (1-4 cameras)
2	EA	816	250' video cable for detection unit
2	EA	816	Video detection camera with arm and clamp.

## EQUIPMENT LIST "B" (cont.)

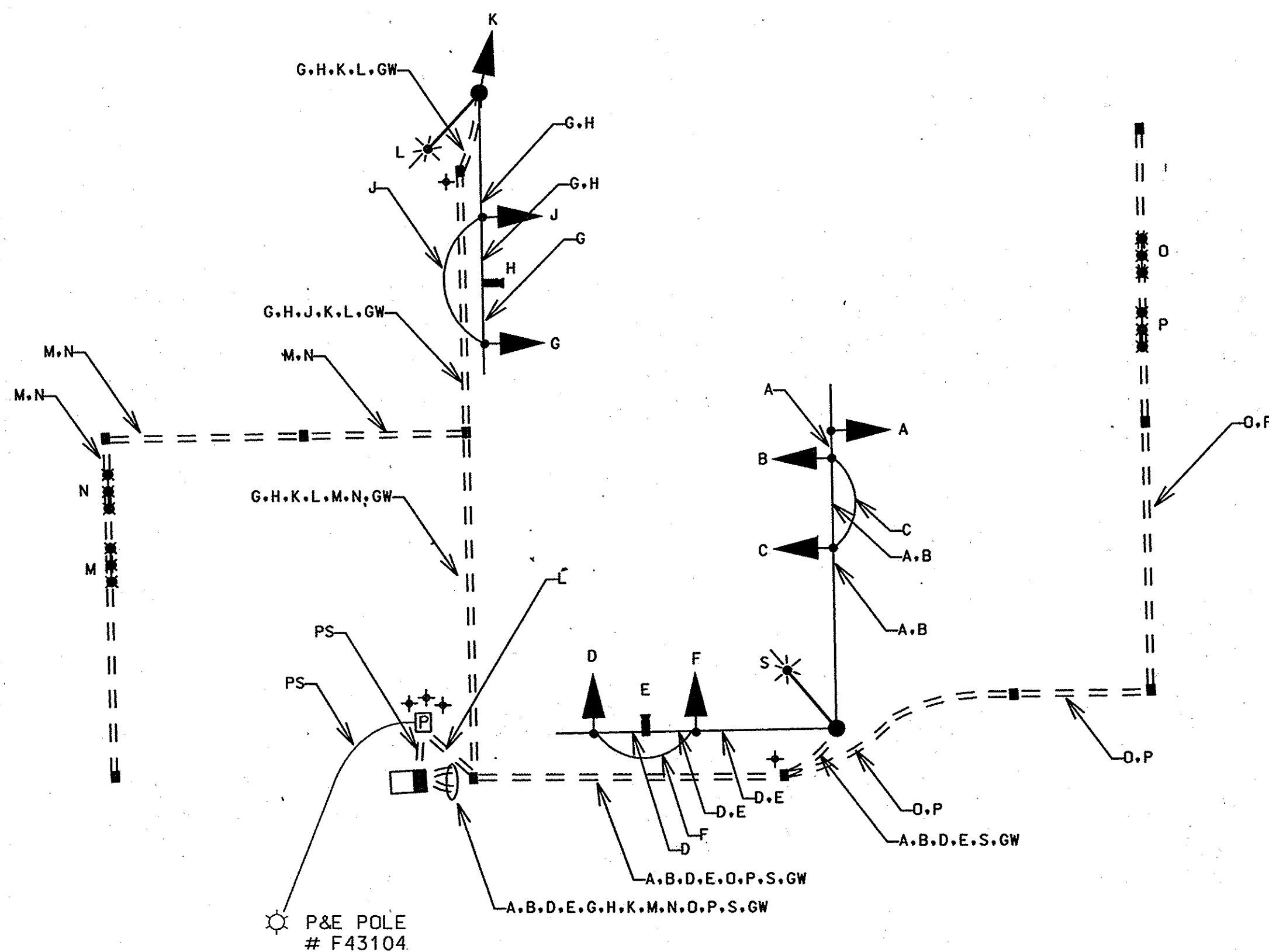
### B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

QUANTITY	UNITS	SPECIFICATION SECTION	DESCRIPTION
4	LF	812	4" x 4" wood post
75	SF	813	Sheet aluminum signs consisting of: 1 ea. M3-1 24"x12" (POLE MOUNT) 1 ea. M1-5 24"x24" (POLE MOUNT) 1 ea. M6-1 21"x15" (POLE MOUNT) 1 ea. M3-3 30"x15" (POLE MOUNT) 1 ea. M1-5 36"x 36" (POLE MOUNT) 1 ea. M6-1(MOD) 30"x24" (POLE MOUNT) 1 ea. D-3 16"xvar (POLE MOUNT) 4 ea. W3-3 36"x36" (GROUND MOUNT)
25	EA	814	12 in. black-faced LED vehicular signal head section
3	EA	814	8 in. black-faced LED vehicular signal head section
1	EA	816	Econolite eight-phase, full-traffic-actuated controller with system package housed in a NEMA size "6" base mounted cabinet per MSHA specifications. Cabinet to be delivered to SHA Signal Shop for wiring and testing prior to installation. Contact Ed Rodenhizer 72 hours prior to delivery.
1	EA	818	27' steel pole with 50' mast arm.
1	EA	818	27' steel pole with twin 50'/60' mast arms.

## EQUIPMENT LIST "C"

### C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA

None



### WIRING LEGEND

L.S	2 CONDUCTOR ELECTRICAL CABLE (#12 AWG) (LUMINAIRES)
C.F.J.K	5 CONDUCTOR ELECTRICAL CABLE (#14 AWG)
A.B.D.G	7 CONDUCTOR ELECTRICAL CABLE (#14 AWG)
E.H	VIDEO DETECTOR LEAD-IN
M.N.O.P	MICROLOOP LEAD-IN CABLE
GW	STRANDED BARE COPPER GROUND WIRE (#6 AWG)
⊕	GROUND ROD (IN HANDHOLE)
PS	POWER SOURCE TO BE INSTALLED BY ALLEGHANY POWER

## PROJECT CONTACTS

THE CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

MR. JOHN CONCANNON  
ASSISTANT DISTRICT ENGINEER - TRAFFIC  
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MR. RAY JOHNSON  
ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
PHONE: (301) 624-8106

THE POWER COMPANY REPRESENTATIVE IS:  
ALLEGHANY POWER  
FREDERICK SERVICE CENTER  
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MS. ANDREA ABEND  
DISTRICT UTILITIES ENGINEER  
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MR. RICHARD L. DAFF, SR.  
CHIEF, TRAFFIC OPERATIONS DIVISION  
PHONE: (410) 787-7630

MR. ED RODENHIZER  
SIGNAL OPERATIONS SUPERVISOR  
PHONE: (410) 787-2650

MR. BOB SNYDER  
TRAFFIC OPERATIONS DIVISION  
(410) 787-7630

**SHA**

STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY  
TRAFFIC ENGINEERING DESIGN DIVISION

TRAFFIC SIGNAL INSTALLATION PLAN  
EASTBOUND I - 70 ON/OFF RAMP / MD 75

SCALE 1"=20' DATE 11/17/06 CONTRACT NO. \_\_\_\_\_

DESIGNED BY DPN/PS COUNTY Frederick  
DRAWN BY DPN/LV LOGMILE 10007508.02  
CHECKED BY CT T.I.M.S. NO. H284  
F.A.P. NO. N/A TDD NO. \_\_\_\_\_

DRAWING NO. \_\_\_\_\_ OF \_\_\_\_\_ SHEET NO. 2 OF 5

WELLS & ASSOCIATES, LLC

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